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TI - MANUFACTURE OF SOLAR CELL

AB - PURPOSE: To prevent a cutoff failure by a method wherein a narrow groove smaller than a broad groove, which is formed on a metal electrode layer by irradiating it with a high energy beam, is provided to the broad groove, and a split groove composed of the narrow and the broad groove is provided.

- CONSTITUTION: A YAG laser beam L1, whose focal point is so set as to form a broad groove 51 of prescribed width on a metal electrode layer 4, is made to irradiate the electrode layer 4 as scanning. Then, a part of the metal electrode layer 4 irradiated with the laser beam L1 is evaporated, and a broad groove 51 bowl-like in cross section is formed. In succession, a laser beam L2 whose focal point is made narrower than that of the laser beam L1 is made to irradiate nearly the center of the broad groove 51 as scanning to form a narrow groove 52 smaller than the broad groove 51 in width. As a metal electrode 6 is very thin, it is fully cut off by providing the narrow groove 52. By the above process, a split groove 5 composed of the broad groove 51 and the narrow groove 52, which is provided to nearly the center of the broad groove 51, narrower than the broad groove 51 in width, parabolic in cross section, and fully splits the metal electrode 6 into two, is formed.

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